## *IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*

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| In re application of: DeSanti et al. | Attorney Docket No.: ANDIP030 |
| Application No.: 10/678,014 | Examiner: Hoang, Daniel L. |
| Filed: October 1, 2003 | Group: 2136 |
| Title: METHOD AND APPARATUS FOR ENCAPSULATING LONG MESSAGES OVER LIMITED FIBRE CHANNEL EXTENDED LINK SERVICES | Confirmation No. 9219 |

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Signed: /Latonia Ervin/ .
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# *PRE APPEAL BRIEF REQUEST FOR REVIEW*

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Please consider the following remarks and arguments:

Claims 1-11 and 24-35 are pending. The Examiner rejected claims 1-11 and 24-35 including independent claims under 35 USC 103 as being unpatentable over RFC 791: Internet Protocol-DARPA Internet Program Protocol Specification (hereafter RFC 791), the "applicant's disclosure of prior art", and US Patent No. 7,149,769 (Lubber). In the response to the previous Office Action, Applicants stated that none of the references cited by the Examiner either alone or in combination sufficiently teach or suggest fragmenting an authentication message into a first ELS message fragment in a first exchange and a second ELS message fragment in a second exchange. The cited art also does not either alone or in combination teach or suggest sending the second message fragment after the first exchange is complete as recited in independent claims.

The Examiner acknowledges that RFC 791 and applicant's disclosure of prior art do not teach or suggest the above noted claim recitations. The Examiner relies on Lubber in combination with RFC 791 to describe these recitations. The Examiner argues that Lubber states “messages are formatted as ELS fibre channel frames” and it would be obvious to modify the teachings of RFC 791 to incorporate that which is taught by Lubber because “in a Fibre Channel embodiment, Fibre Channel messages are sent using ELS that allow a Fibre Channel port on one device to request a function or service from another port.”

Lubber mentions ELS in only one paragraph. “In an SAN environment, waiting for the arrival of a subsequent command frame can take a substantial amount of time. The protocol in accordance with the present invention includes "heartbeat" or "ping" messages that are transmitted from the source to each destination following transmission of a frame carrying the command information. These heartbeat messages are formatted as extended link service (ELS) fibre channel frames and carry immediate data indicating the group sequence number of the GSN of the most recently transmitted operation. The heartbeat frames are preferably transmitted at regular intervals such as once per second from controllers at each end of a tunnel, and will result in an ELS acknowledge response from the destination back to the source. The interval for sending heartbeat frames does not need to be fixed or regular, and may be adapted to balance overhead with performance by increasing the interval to reduce overhead or decreasing the interval to speed detection of dropped frames.” (Figure 9 Description, Second Paragraph)

The Applicants acknowledge that Lubber does describe heartbeat messages formatted as ELS messages. However, neither Lubber in itself nor the Examiner’s combination of references teach or suggest wherein the first ELS message including a first ELS message fragment is associated with a first exchange and the second ELS message including a second ELS message fragment is associated with a second exchange. The cited art also does not either alone or in combination teach or suggest sending the second message fragment after the first exchange is complete.

The Examiner states that a combination of Lubber and RFC 791 would describe fragmenting ELS messages and the above recited elements and would render the claims unpatentable. Even if it is assumed that there is sufficient motivation combine Lubber and RFC 791 to fragment ELS messages, there is no teaching or suggestion anywhere to fragment an authentication message into a first ELS message fragment in a first exchange and a second ELS message in a second exchange. It is respectfully submitted that a theoretical combination would only fragment an authentication message into a first ELS message and a second ELS message in the same exchange.

It is theoretically possible that a combination of RFC 791 and Lubber can perform these recitations. However, these recitations are not taught or suggested in Lubber or RFC 791 or anywhere else and can not be assumed. For example, a theoretical implementation may simply include ELS messages associated with different fragments of a data sequence in the same exchange. Alternatively, a second message fragment may be sent before a first exchange is complete. Although 791 does describe fragmenting a message and sending one message after the other, this does not teach or suggest sending a second ELS message fragment after the first exchange is complete. It is respectfully submitted that RFC 791 actually teaches simply sending the second fragment right after sending the first fragment.

Even if it is assumed that there is sufficient motivation to combine the references, the combined references still do not teach or suggest fragmenting an authentication message into a first message fragment and a second message fragment which are sent in different exchanges. It is respectfully submitted that the Examiner proposed combination of references, even if sufficient motivation is assumed, would only teach fragmenting an ELS message. The fragments of the message would likely be transmitted in a single exchange without any suggestion that the fragments should be transmitted in different exchanges, with a second fragment not transmitted until a first exchange is complete.

## CONCLUSION

In light of the above remarks, the rejections to the independent claims are believed overcome for at least the reasons noted above. Applicants' Representative believes that all pending claims are allowable in their present form. If the Examiner has any questions or concerns for Applicants' Representative, the Examiner is encouraged to contact the Undersigned at the number provided below.

Respectfully submitted,
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## APPENDIX: IN THE CLAIMS

1. (Previously Presented) A method, comprising:

determining that an authentication message has a length that exceeds the message length supported by a target entity in a fibre channel Fabric;

fragmenting the authentication message into message fragments including a first message fragment and a second message fragment;

generating a first Extended Link Services (ELS) message including the first message fragment, wherein the first ELS message is associated with a first exchange;

generating a second ELS message including the second message fragment, wherein the second ELS message is associated with a second exchange;

sending the message fragments including the first message fragment and the second message fragment to the target entity, wherein the second message fragment is sent after the first exchange is complete.

2. (Original) The method of claim 1, wherein fragmenting the authentication message into message fragments further comprises setting a fragmentation bit in each message fragment except the last message fragment.

3. (Original) The method of claim 2, wherein the setting of the fragmentation bit of one of the message fragments indicates that a subsequent message fragment is to be sent.

4. (Original) The method of claim 1, wherein fragmenting the authentication message into message fragments further comprises resetting a fragmentation bit in the last message fragment of the authentication message.

5. (Original) The method of claim 1, wherein fragmenting the authentication message into message fragments further comprises labeling each message fragment with a Sequence Number.

6. (Original) The method of claim 4, wherein the resetting of the fragmentation bit in the fragmentation field of the last message fragment indicates that no subsequent message fragments will follow the last message fragment.

7. (Original) The method of claim 1, wherein the message comprises, but is not limited to, authentication information and contains one or more of the following fields:

a field that identifies the authentication message as an authentication message; and

an authentication command code field that identifies the particular authentication message of an authentication protocol.

8. (Original) The method of claim 6, wherein the authentication protocol comprises but is not limited to the following protocols: DH-CHAP, SRP, or FCAP.

9. (Original) The method of claim 1, wherein the target entity is an end device in the Fabric.

10. (Original) The method of claim 1, wherein the target entity is the Fabric.

11. (Original) The method of claim 6, wherein the target entity either accepts or discards the message fragment based on the value of the Sequence Number.

12-23. (Canceled)

24. (Previously Presented) An apparatus, comprising:

a processor operable to determining that an authentication message has a length that exceeds the message length supported by a target entity in a fibre channel Fabric, fragment the authentication message into message fragments including a first message fragment and a second message fragment, and generate a first Extended Link Services (ELS) message including the first message fragment and a second ELS message including the second message fragment, wherein the first ELS message is associated with a first exchange and the second ELS message is associated with a second exchange;

an interface connected to the processor, the interface operable to send the message fragments including the first message fragment and the second message fragment to the target entity, wherein the second message fragment is sent after the first exchange is complete.

25. (Previously Presented) The apparatus of claim 24, wherein the processor sets a fragmentation bit in each message fragment except the last message fragment.

26. (Previously Presented) The apparatus of claim 25, wherein the fragmentation bit is used to indicate that a subsequent message fragment is to be sent by the initiating entity.

27. (Previously Presented) The apparatus of claim 24, wherein a fragmentation bit in the last message fragment of the authentication message is set.

28. (Previously Presented) The apparatus of claim 24, wherein each message fragment is labeled with a Sequence Number.

29. (Previously Presented) A system, comprising:

means for determining that an authentication message has a length that exceeds the message length supported by a target entity in a fibre channel Fabric;

means for fragmenting the authentication message into message fragments including a first message fragment and a second message fragment;

means for generating a first Extended Link Services (ELS) message including the first message fragment, wherein the first ELS message is associated with a first exchange;

means for generating a second ELS message including the second message fragment, wherein the second ELS message is associated with a second exchange;

means for sending the message fragments including the first message fragment and the second message fragment to the target entity, wherein the second message fragment is sent after the first exchange is complete.

30. (Previously Presented) The system of claim 29, wherein fragmenting the authentication message into message fragments further comprises setting a fragmentation bit in each message fragment except the last message fragment.

31. (Previously Presented) The system of claim 30, wherein the setting of the fragmentation bit of one of the message fragments indicates that a subsequent message fragment is to be sent.

32. (Previously Presented) The system of claim 29, wherein fragmenting the authentication message into message fragments further comprises resetting a fragmentation bit in the last message fragment of the authentication message.

33. (Previously Presented) The system of claim 29, wherein fragmenting the authentication message into message fragments further comprises labeling each message fragment with a Sequence Number.

34. (Previously Presented) The system of claim 32, wherein the resetting of the fragmentation bit in the fragmentation field of the last message fragment indicates that no subsequent message fragments will follow the last message fragment.

35. (Previously Presented) The system of claim 29, wherein the message comprises, but is not limited to, authentication information and contains one or more of the following fields:

a field that identifies the authentication message as an authentication message; and

an authentication command code field that identifies the particular authentication message of an authentication protocol.